

REMARKS

The Office Action mailed May 11, 2010 has been reviewed and carefully considered. No new matter has been added.

Claims 1, 14, and 19 have been amended. Claims 1-22 are pending.

Claims 1-8, 14, and 19-22 stand rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. Of Claims 1-8, 14, and 19-22, Claims 1, 14, and 19 are independent Claims. Process Claims 1, 14, and 19 have been amended to each now recite, *inter alia*, “In a video decoder, a method...” (emphasis added). Support for the amendment may be found at least at Figure 6, element 604, and Figure 8, element 800, Figure 9A, element X27a, Figure 9B, element x27b, page 10, lines 15-16 and 19-22, and page 15, lines 8 and 13 noting that Figures 9A and 9B show circuits in the encoder of Figure 7, and further noting that page 15, lines 8 and 13 discloses a “decoding apparatus (decoder 605)”. Thus, process Claims 1, 14, and 19 recite that such processes are performed in a video decoder and, hence, are tied to the statutory class of apparatus, thus satisfying the first prong of the machine or transformation test set forth in *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008), which requires that a statutory process under 35 U.S.C. 101 must (1) be tied to another statutory category, or (2) transform underlying subject matter to a different state or thing. Moreover, we note that as per MPEP 2111.02(I), “[a]ny terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation”. Accordingly, Claims 1, 14, and 19 are believed to satisfy the requirements of 35 U.S.C. 101 for at least the preceding reasons. As Claims 2-8 and 20-22 directly or indirectly depend from Claims 1 and 19, respectively, Claims 2-8 and 20-22 are believed to satisfy the requirements of 35 U.S.C. 101 for at least the same reasons as Claims 1 and 19. Thus, reconsideration of the rejection is respectfully requested.

Claims 1-12 and 14-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 20050276323 A1 to Martemyanov et al. (hereinafter “Martemyanov”) in view of U.S. Patent Publication No. 20010055338 to Machida (hereinafter “Machida”). Claim 13 stands rejected under 35 U.S.C. 102(b) as being anticipated by Machida. The rejections are respectfully traversed.

The independent claims currently pending are Claims 1, 9, 13, 14, 15, and 19.

It is respectfully asserted that none of the cited references, either taken singly or in combination, teach or suggest the following limitations recited in Claim 1:

In a video decoder, a method for decoding a hybrid intra-inter encoded block comprising: combining a first prediction of a current block with a second prediction of a current block; wherein the first prediction of the current block is intra prediction and the second prediction of the current block is inter prediction.

Moreover, it is respectfully asserted that none of the cited references, either taken singly or in combination, teach or suggest the following limitations recited in Claim 9:

A video decoder adapted to decode a hybrid intra-inter coded block and to provide reconstructed pixel data, the decoder comprising: an intra-frame prediction block being operatively connected to a combining unit and for outputting a first intra prediction of the block; and an inter-frame prediction block being operatively connected to the combining unit and for outputting a first inter prediction of the block.

Also, it is respectfully asserted that none of the cited references , either taken singly or in combination, teach or suggest the following limitations recited in Claim 14:

In a video decoder, a method for video decoding a block comprising: combining a first prediction of a current block with a second prediction of a current block; wherein the first prediction of the current block is intra prediction and the second prediction of the current block is inter prediction.

Additionally, it is respectfully asserted that none of the cited references , either taken singly or in combination, teach or suggest the following limitations recited in Claim 15:

A video decoder for decoding blocks within frames of a sequence of two dimensional images, the decoder comprising: an intra-frame prediction block being operatively connected to a combining unit and for outputting a first intra prediction

of a block; and an inter-frame prediction block being operatively connected to the combining unit and for outputting a first inter prediction of the block; wherein the combining unit is adapted to combine the first intra prediction and the first inter prediction and to output a hybrid intra-inter coded block.

Moreover, it is respectfully asserted that none of the cited references, either taken singly or in combination, teach or suggest the following limitations recited in Claim 19: "In a video decoder, a method for video decoding a block comprising: combining a first prediction type for a current block with a second prediction type for a current block; wherein the combination of the first prediction type and the second prediction type forms a hybrid prediction type."

Against the aforementioned limitations of Claims 1, 9, 14, 15, and 19, the Examiner cited Martemyanov, reasoning as follows:

As per claims 1, 9, 14-15, 19 Martemyanov teaches a method for decoding a hybrid intra-inter encoded block comprising: selecting (see fig.3 element 54) a first prediction of a current block (see fig. 3 element 50) with a second prediction of a current bloc (see fig. 3 element 52) and wherein the first prediction of the current block is intra prediction and the second prediction of the current block is inter prediction.

However, we initially note that none of the aforementioned claims, 9, 14, 15, and 19 even recite the word "selecting". Hence, the Examiner use of the cited references seems misplaced.

Moreover, we note that while each of Claims 1, 9, 14, 15, and 19 are directed to a video decoder and/or decoding, Figure 3 of Martemyanov is directed to a macroblock encoding unit. As is known, a decoder does not correspond to a macroblock encoding unit, despite the fact that encoding and decoding can be considered as complimentary and/or inverse functions.

Also, while cited Figure 3 of Martemyanov is directed to a macroblock encoding unit, we further note that such macroblock encoding unit in Martemyanov is not disclosed as having the capability to combine an intra prediction and an inter prediction and/or form a hybrid (inter and intra) prediction type as essentially recited in Claims 1, 9, 14, 15, and 19, nor does the macroblock

encoding unit of Figure 3 even have the means for making such combination, as no combiner or similar functioning device is shown in Figure 3 as receiving both of such disparate types of predictions, namely an intra prediction and an inter prediction. For example, element 54 of Figure 3 of Martemyanov, namely the element referred to as “choosing macroblock type and encoding settings”, functions as its name suggests, and performs no combining or similar functions as recited in Claims 1, 9, 14, 15, and 19. This is because only one type of prediction is chosen for a macroblock (see, e.g., Martemyanov, para. [0038], “[e]ach macroblock can be intra or inter coded”(emphasis added)) as per conventional encoding schemes and, hence, no combining of intra prediction and inter prediction are even remotely suggested, in contrast to the subject matters of Claims 1, 9, 14, 15, and 19.

Of course, none of this is surprising, as even the Examiner has admitted that “Martemyanov fails to teach combining a first prediction of a current block with a second prediction of a current block”.

Hence, the Examiner has relied upon Machida, reasoning that “Machida teaches combining a first prediction of a current block with a second prediction of a current block (see fig. 3 element 315 and paragraph [0049]”. However, this teaching of Machida can simply be considered to be similar to bi-prediction, where TWO PREDICTIONS OF THE SAME TYPE ARE COMBINED. That is, in Machida, two predictions of the same type (inter OR intra) are combined in the coding apparatus of Figure 3. For example, an intra/inter judging means 304 “judg[es] whether the macro block of the present frame is processed by intra-coding or inter-coding” (see, e.g., Machida, para. [0050]). To that end, we respectfully point out that such intra/inter judging means 304 in Machida does NOT include an output judgment that indicates a combination of intra-coding and inter-coding for the same macroblock or a hybrid prediction type or a hybrid intra-inter coded block. Rather, the only two output judgments by the intra/inter judging means 304 of Machida are intra-coding OR inter-coding.

Moreover, paragraph [0045] of Machida, which is directed to Figure 3 thereof, discloses that “[a] third embodiment of the invention is a coding method of moving image signal for inter-coding the present processing pixel block when the correlation is high between two or more predicted images compensated of motion by two or more motion vectors, and intra-coding the present processing pixel block when the correlation is low between two or more predicted images”.

Hence, Machida codes a present processing pixel block either using inter coding OR intra coding, depending on the correlation to predicted images.

Hence, similar to Martemyanov, Machida fails to teach or even remotely suggest combining an intra prediction and an inter prediction and/or forming a hybrid (inter and intra) prediction type as essentially recited in independent Claims 1, 9, 14, 15, and 19. Given that bi-prediction involves two (inter) predictions of the same type and that Machida involves two predictions of the same type, it would actually seem counterintuitive, particularly in consideration of the preceding, to try and combine two different types of prediction such as inter prediction and intra prediction as recited in the pending independent claims.

Thus, neither Martemyanov nor Machida, taken singly or in combination, teach or suggest all of the above reproduced limitations of Claims 1, 9, 14, 15, and 19. Accordingly, Claims 1, 9, 14, 15, and 19 are patentably distinct and non-obvious over Martemyanov and Machida for at least the preceding reasons.

We will now address independent Claim 13. At the onset, we note that independent Claim 13 is similar to previously argued independent Claims 1, 9, 14, 15, and 19 in that all such claims involve encoding by combining an intra prediction and an inter prediction. Accordingly, given that the same references were cited against all of these claims, we respectfully argue that Claim 13 is patentably distinct and non-obvious over the cited references for at least the same reasons as set forth above regarding Claims 1, 9, 14, 15, and 19. Nonetheless, we will specifically address Claim 13 as follows.

It is respectfully asserted that none of the cited references, either taken singly or in combination, teach or suggest the following limitations recited in Claim 13: “A video decoder adapted to decode a bitstream including bi-predictive intra-inter encoded blocks.”

Against the aforementioned limitations of Claim 13, the Examiner cited Machida, reasoning as follows: “As per claim 33, Machida teaches a video decoder adapted to decode a bitstream including bi-predictive intra-inter encoded blocks (see fig. 3 element 315 and paragraph [00049]).”

However, the teachings of Machida can simply be considered to be similar to conventional bi-prediction, where TWO PREDICTIONS OF THE SAME TYPE ARE COMBINED. That is, in Machida, two predictions of the same type (inter OR intra) are combined in the coding apparatus of Figure 3. For example, an intra/inter judging means 304 “judg[es] whether the macro block of the

present frame is processed by intra-coding or inter-coding" (see, e.g., Machida, para. [0050]). To that end, we respectfully point out that such intra/inter judging means 304 in Machida does NOT include an output judgment that indicates a combination of intra-coding and inter-coding for the same macroblock or a hybrid prediction type or a hybrid intra-inter coded block. Rather, the only two output judgments by the intra/inter judging means 304 of Machida are intra-coding OR inter-coding.

Moreover, paragraph [0045] of Machida, which is directed to Figure 3 thereof, discloses that "[a] third embodiment of the invention is a coding method of moving image signal for inter-coding the present processing pixel block when the correlation is high between two or more predicted images compensated of motion by two or more motion vectors, and intra-coding the present processing pixel block when the correlation is low between two or more predicted images". Hence, Machida codes a present processing pixel block either using inter coding OR intra coding, depending on the correlation to predicted images.

Hence, Machida fails to teach or even remotely suggest combining an intra prediction and an inter prediction let alone bi-predictive intra-inter encoded blocks as recited in independent Claim 13. Given that bi-prediction involves two (inter) predictions of the same type and that Machida involves two predictions of the same type, it would actually seem counterintuitive, particularly in consideration of the preceding, to try and combine two different types of prediction such as inter prediction and intra prediction as recited in the pending independent claims.

Thus, neither Martemyanov nor Machida (although only Machida was cited against Claim 13), taken singly or in combination, teach or suggest all of the above reproduced limitations of Claim 13. Accordingly, Claim 13 is patentably distinct and non-obvious over Martemyanov and Machida for at least the preceding reasons.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." MPEP §2131, citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The failure of an asserted combination to teach or suggest each and every feature of a claim remains fatal to an obviousness rejection under 35 U.S.C. § 103. Section 2143.03 of the MPEP requires the "consideration" of every claim feature in an obviousness determination. To

render a claim unpatentable, however, the Office must do more than merely "consider" each and every feature for this claim. Instead, the asserted combination of the patents must also teach or suggest *each and every claim feature*. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art). Indeed, as the Board of Patent Appeal and Interferences has recently confirmed, a proper obviousness determination requires that an Examiner make "a searching comparison of the claimed invention - *including all its limitations* - with the teaching of the prior art." See *In re Wada and Murphy*, Appeal 2007-3733, citing *In re Ochiai*, 71 F.3d 1565, 1572 (Fed. Cir. 1995) (emphasis in original). "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Hence, Claims 1, 9, 13, 14, 15, and 19 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above.

"If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious" (MPEP §2143.03, citing *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Claims 2-8, 10-12, 16-18, and 20-22 directly or indirectly depend from Claims 1, 9, 15, and 19, respectively, and thus include all the limitations of Claims 1, 9, 15, and 19, respectively. Accordingly, Claims 2-8, 10-12, 16-18, and 20-22 are patentably distinct and non-obvious over the cited references for at least the reasons set forth above with respect to Claims 1, 9, 15, and 19, respectively.

Reconsideration of the rejections is respectfully requested.

In view of the foregoing, Applicants respectfully request that the rejections of the claims set forth in the Office Action of May 11, 2010 be withdrawn, that the pending claims be allowed, and that the case proceed to early issuance of Letters Patent in due course.

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It is believed that no further additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicants' Deposit Account No. 07-0832.

Respectfully submitted,

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